

ABSTRACT

The present invention relates to a semiconductor device comprising a semiconductor substrate (1), a gate insulator formed on this substrate, such as a gate oxide film (2), and a gate electrode (3) formed on the insulator. The gate electrode (3) has a metallic compound film (3a). This metallic compound film (3a) is formed by CVD using a material containing a metal carbonyl, e.g., W(CO)<sub>6</sub> gas, and at least one of a Si-containing gas and a N-containing gas. The work function of the metallic compound film (3a) thus formed is controllable by the Si and/or N content of the film.